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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/718,052

11/20/2003

Paul Michael Ferrell

28642/04198

9298

24024 7590 09/07/2007  
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EXAMINER

PRYOR, ALTON NATHANIEL

ART UNIT

PAPER NUMBER

1616

MAIL DATE

DELIVERY MODE

09/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/718,052

Applicant(s)

FERRELL, PAUL MICHAEL

Examiner

Alton N. Pryor

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17,22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicant's arguments filed 2/8/07 have been fully considered but they are not persuasive. See discussion below.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17,22 remain rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Zagar et al (US 20050037623), Ross et al (Applied Weed Science, Chapter 6: "Herbicide Application", p. 107-10, 1985) and Weston et al (US 5352265).

Zagar et al teach herbicidal compositions may be produced as various customary liquid or solid formulations (para 276) such as coated granules, impregnated granules, and homogeneous granules by binding the active compounds to solid carriers, which may be among other things, fertilizers such as urea (para 284). NMP is disclosed among the suitable liquid inert auxiliaries with a carrier function (para 280); in order to impregnate a granule, the active agent will necessarily be dissolved and / or suspended in such a carrier. Prodiamine is also disclosed (para 115) as being a possible secondary active agent for the composition.

Ross et al teach that granular herbicidal compositions comprising fertilizer materials such as urea are conventional in the art (p. 109), and that "impregnating dry

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bulk fertilizers with herbicides is done simply by using a rotary drum (or similar) mixer equipped with a spray nozzle ..." (p. 110). Applicant argues that Ross et al require water as a spray substrate; however, the two example herbicides which are discussed, EPTC (liquid) and trifluralin (solid), are both insoluble in water. Further contrary to applicant's position, Ross et al neither implies nor states that water must be the spray carrier material. Thus it is not seen where Ross et al expresses a "clear preference for water as the carrier" as stated in the request for reconsideration.

Weston et al teach a homogeneous granular urea-based fertilizer composition comprising urea and two other agents, NBPT and DCD. To make the granular product, the NBPT is dissolved in a solvent such as 2-pyrrolidone or NMP (Ex. 3) and then combined with molten urea prior to granulation. The DCD may either be dissolved along with the NBPT, or added directly into the melt (abstract) as a carrier for agents.

One of ordinary skill in the art would be motivated to combine these references in order to make the impregnated or homogeneous granular composition of Zagar et al by the methods as disclosed in Ross et al or Weston et al.

It would have been obvious to the ordinary artisan at the time the invention was made to have made applicant's herbicidal (prodiamine) impregnated fertilizer granule because granule impregnation is a conventional process by which active agents are dissolved or suspended in a liquid carrier, such as NMP, and then applied to a granular material.

The prior art teaches that urea is a useful particulate substrate for such compositions which may be made either by conventional impregnation, or by combining

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active agents with a solvent such as NMP which is then added to molten urea, with the subsequent material subsequently granulated. Thus, the fertilizer product as claimed herein may be made by the process as claimed, or by a process making use of a molten substrate. As applicant notes, the process of Weston et al involves a step of using molten urea, unlike the claimed methods herein. However it would appear that the resultant composition, i.e., an impregnated particulate fertilizer composition, is the same as that claimed herein, although made by a different process.

Applicant has specified various parameter and concentration ranges. It is well-established that merely selecting proportions and ranges is not patentable absent a showing of criticality. In re Becket, 33 USPQ 33 (CCPA 1937). In re Russell, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

It appears that applicant's invention pertains to improving the safety of making the claimed compositions (specification pages 1-2). If data can be provided that demonstrates the criticality of the previously discussed ranges with respect to flammability or other safety issues, or that demonstrates enhanced safety (reduced flammability) in comparison with conventional granule impregnation, then the claims would be allowable.

*Response to Applicant's argument*

Applicant argues:

- 1) Conventional technology for making prodiamine-impregnated fertilizer in which powdered prodiamine is blended with particular fertilizer is inherently dangerous

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because powdered prodiamine is explosively flammable. See specification paragraphs 3-4.

2) In accordance with this invention, the explosively flammable nature of prodiamine is avoided by dissolving the prodiamine in N-methyl pyrrolidone and using the liquid impregnant so formed for combining with the fertilizer substrate. Because prodiamine in solution does not generate static electricity when flowing through conduits, the ignition source responsible for igniting this fuel is also eliminated.

Examiner argues that the Applicant does not provide data, which confirms that the explosively flammable property of prodiamine is avoided by dissolving the prodiamine in N-methyl pyrrolidone. For this reason the rejection is maintained. Applicant has specified various parameter and concentration ranges. It is well-established that merely selecting proportions and ranges is not patentable absent a showing of criticality. In re Becket, 33 USPQ 33 (CCPA 1937). In re Russell, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

### **New Rejection**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koko et al (JP 07109193) or Koko et al (JP 07109192).

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Koko teaches a method comprising impregnating fertilizer granules with a solution comprising prodiamine mixed with white carbon. Koko teaches that this method of manufacturing avoids the problems of dusting and caking. Koko differs from instant claims in that Koko does not employ claimed pyrrolidone, lactone or mixture thereof to make the solution comprising prodiamine. Koko makes it obvious to use chemicals to dissolve prodiamine prior to application of prodiamine onto fertilizer particles to avoid prodiamine dust particles (which are be explosively flammable). Therefore, absent a showing of the criticality the lactone and pyrrolidone in the instant process, it would have been obvious to use any compatible chemical to formulate prodiamine into solution to avoid explosive flammability dangers. Applicant has specified various parameter and concentration ranges. It is well-established that merely selecting proportions and ranges is not patentable absent a showing of criticality. In re Becket, 33 USPQ 33 (CCPA 1937). In re Russell, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

#### ***Election Status***

The election of prodiamine and N-methyl pyrrolidone is not allowable. See rejections above.

#### ***Telephonic Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alton N. Pryor whose telephone number is 571-272-0621. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Alton Pryor', is written above the printed name.

Alton Pryor  
Primary Examiner  
AU 1616